Building bridges for Innovation in Ageing : Synergies between Action Groups of the EIP on AHA

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Summary

The Strategic Implementation Plan of the European Innovation Partnership on Active and Healthy Ageing (EIP on AHA) has proposed six Action Groups. After almost three years of activity, many achievements have been obtained through commitments or collaborative work of the Action Groups. However, they have often worked in silos and consequently synergies between Action Groups have been proposed to strengthen the triple win of the EIP on AHA. The paper presents the methodology and current status of the Task Force on EIP on AHA synergies. Synergies are in line with the Action Groups' new Renovated Action Plan (2016-2018) to ensure that their future objectives are coherent and fully connected. Outcomes and impact of synergies are using the Monitoring and Assessment Framework for the EIP on AHA (MAFEIP). Eight proposals for synergies have been approved by the Task Force: Five Cross-cutting synergies which can be used for all current and future synergies as they consider overarching domains (appropriate polypharmacy, citizen empowerment, teaching and coaching on AHA, deployment of synergies to EU regions, Responsible Research and Innovation), and three cross-cutting synergies focussing on current Action Group activities (falls, frailty, integrated care and chronic respiratory diseases).

Abbreviations

AG: Action Group
AHA: Active and Healthy Ageing
CoP: Conference of Partners
CRD: Chronic Respiratory Diseases
EICA: European Interdisciplinary Council on Aging
EIP on AHA: European Innovation Partnership on Active and Healthy Ageing
EU: European Union
ICT: Information and Communication Technology
MACVIA-LR: Reference Site *Contre les Maladies Chroniques pour un Vieillissement Actif en Languedoc Roussillon*
MAFEIP: Monitoring and Assessment Framework for the EIP on AHA
PROEIPAHA: Support Action to the EIP on AHA
QALY: Quality-Adjusted-Life-Years
QOL: Quality of life
RAP: Renovated Action Plan
RRI : Responsible Research and Innovation
RSCN: Reference Site Collaborative Network
TF: Task Force
WHO: World Health Organization
WHODAS 2.0: World Health Organization Disability Assessment Schedule 2.0

Key words

European Innovation Partnership on Active and Healthy Ageing, polypharmacy, education, falls, frailty, integrated care, citizen empowerment, chronic respiratory diseases

Introduction

The European Commission aims to enhance European competitiveness and tackle societal challenges through research and innovation (European Innovation Partnerships (EIP)). Active and Healthy Ageing (AHA) is a major health and societal challenge in all European countries, and an area with considerable potential for European leadership. Therefore an initiative was launched by the EIP on AHA to accomplish a triple win (1):

- Enabling citizens to lead healthy, active and independent lives while ageing.
- Improving the sustainability and efficiency of social and health care systems.
- Boosting and improving the competitiveness of the markets for innovative products and services responding to the ageing challenge.

The EIP on AHA programme framework defined priority areas of work translated into six specific Action Groups (AG) (Table 1).

Table 1: Action groups of the EIP AHA (1)

- **Prevention of diseases and health promotion**
  - Finding innovative ways to ensure that patients follow their prescriptions and treatments once treatments are optimised to ensure appropriate polypharmacy that optimised outcomes from medicines whilst minimising harm. (Action Group A1).
  - Finding innovative solutions to better manage our own health and to prevent falls (Action Group A2).
  - Helping to prevent functional decline and frailty, with a particular focus on malnutrition (Action Group A3).
- **Care and cure:** Promoting integrated care models for chronic diseases, including the use of remote monitoring (Action Group B3).
- **Active and independent living of older adults:** Developing ICT solutions to help people stay independent and more active for longer (Action Group C2).
- **Horizontal topics:** horizontal axis of transversal, framework and supportive topics, of which age-friendly environments (Action Group D4).

Over 500 commitments were submitted from organisations (Table 2) and 32 Reference Sites were recognised in July 2013 as excellence sites for innovation in AHA.

Table 2: Terminology used in the paper

Organisations can participate in the EIP on AHA using:

- **Individual commitments**: Individual task of an AG.
- **Collaborative work**: Project agreed by an AG and carried out by several organisations.

Results are tangible outcomes from commitments and/or collaborative work (e.g. a report, a completed pilot study, a guideline, etc.). They have to be specific, measurable, achievable and time-bound.

Synergies (defined by the Synergy TF in coordination with AGs): Commitments and/or collaborative work with cross-cutting interest and relevance to several AGs. They were established using a concerted approach. A synergy should be in line with the individual AG's Renovated Action Plan.

Collaborative work and Synergies can be managed on a voluntary basis following the objectives set or in a more agile way using **SPRINTS** that are proposed using a specific template with defined short-term results reported every 6 months. In software product development, a sprint is a set period of time during which specific work has to be completed (http://searchsoftwarequality.techtarget.com/definition/Scrum-sprint).

1- Aim of the Task Force on synergies

The EIP on AHA requires a multidimensional and multidisciplinary approach to allow people from multiple backgrounds to work together sharing a common language. After three years of collaboration and activities, many achievements were obtained by the six AGs. However, they have

often worked in silos. Now that AGs have matured, more attention can be given to collaboration across AGs for topics with a shared interest.

In the next phase of the EIP on AHA programme, synergies will be initiated for a practical, action-oriented contribution to a common framework that will be used to further strengthen the triple win of the EIP on AHA.

More specifically, the aims of the TF are to:

1- Outline the methodology and current status of the EIP on AHA synergies.

2- Align with the AG Renovated Action Plan (RAP) to ensure that RAP and synergies are coherent and fully connected.

3- Evaluate the progress, results and impacts of the synergies with MAFEIP (Monitoring and Assessment Framework for the EIP on AHA) (2, 3).

4- Support the existing EIP on AHA Scaling Up Strategy (https://ec.europa.eu/research/innovation-union/pdf/active-healthy-ageing/scaling_up_strategy.pdf)

2- Methodology used by the Task Force to develop synergies

The Synergy Task Force (TF) was initiated November 4, 2015 in order to develop concrete actions to be presented during the 2015 EIP on AHA Conference of Partners (December 9-10, 2015). A transparent methodology has been developed and all AGs were asked to propose at least one synergy. Nine proposals have been submitted and eight were accepted by the TF after applying the pre-defined quality criteria. A meeting in Montpellier (MACVIA-7) held two days before the AHA Conference of Partners helped to fine tune the synergy proposals and suggest a plan for future actions (Nogues, in preparation).

2-1- Selection of task force members

A TF was set up to identify synergies, describe and evaluate them. Initially, each AG selected at least 2 members but, as the process was flexible, some AG proposed up to 7 members. Members of PROEIPAHA Coordination and Support Action and the AG promoters were also invited to participate in the TF. All the TF members are authors of this paper.

2-2- Template to develop proposals for synergies

Synergies were based on a common 4-page template that was unanimously agreed by all the TF members (Table 3).

Table 3: Template used to submit synergies

1. Title of the proposal
2. Leading organisation
3. Supporting organisations
4. Action groups

	A1	A2	A3	B3	C2	D4
AG initiating the proposal						
AG already involved						
AG to be contacted						

5. Rationale for the synergy
6. Achievements of the EIP on AHA AG
7. Objectives
- General objectives
- Specific objectives

8. Concrete plan
9. SPRINTS (2016-2017)

N°	Name	AG	Starting date	Delivery date	Geographical distribution	Results

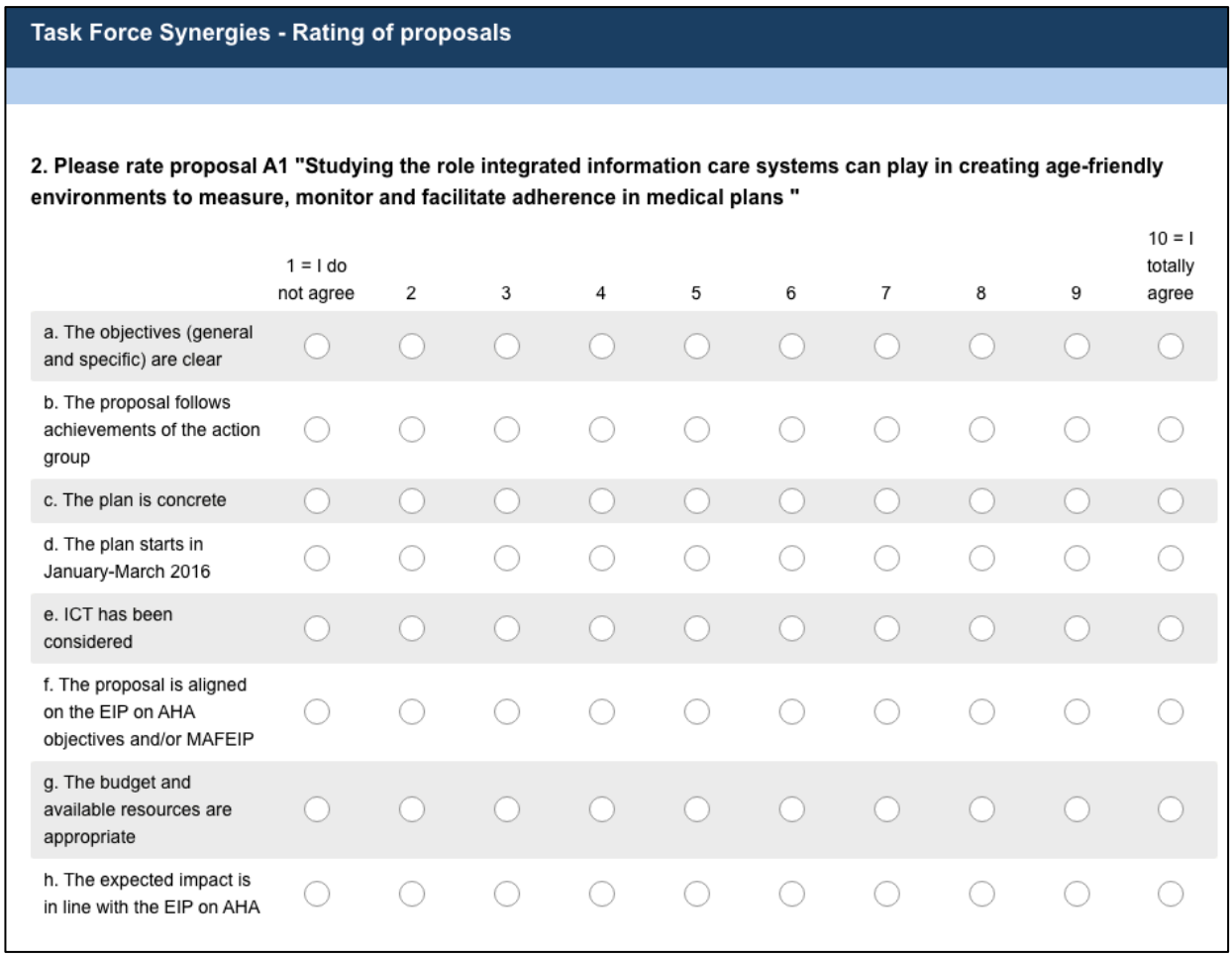
S1
S2

10. Associated EU programmes
11. Alignment with the EIP on AHA objectives
12. Resources currently available for the projects
13. Expected impact

2-3- Assessment of proposals

A transparent methodology has been developed to evaluate the synergies on relevance, quality and applicability. Templates were evaluated by two members of each AG based on a set of criteria checked through Survey Monkey (Figure 1) (www.surveymonkey.com). All proposals with a threshold mean level of 6/10 or above for all the 9 criteria were approved (unanimous decision was required). The inter-rater variance was low between assessments. Proposals that did not reach the threshold level were revised and further approved. Finally, 8 proposals were accepted and one was withdrawn.

Figure 1: Survey Monkey evaluation of proposed synergies

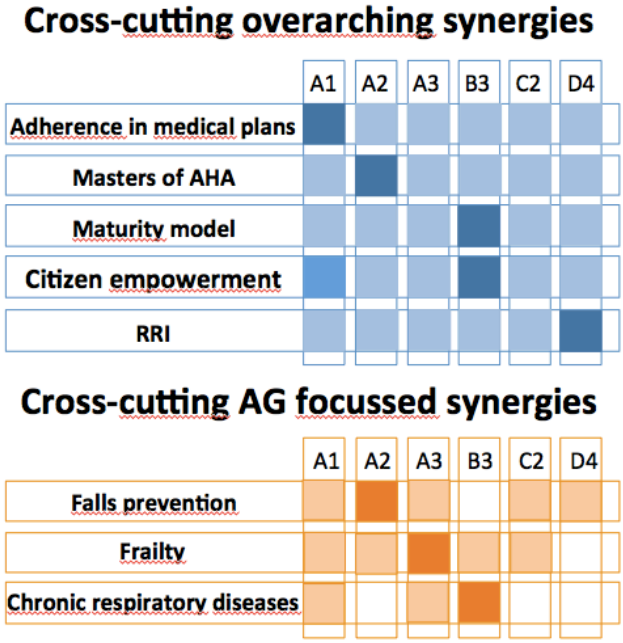


2-4- Type of synergies

Two types of complementary cross-cutting synergies were submitted (Figure 2):

- Synergies considered overarching as they address topics that are relevant for most or all AGs
- Cross-cutting synergies focussing on a current AG activity which will be deployed to other AGs

Figure 2: Synergies of the EIP on AHA



Six synergies (adherence in medical plans, masters of AHA, RRI, Falls prevention, Frailty and CRDs) had a clear plan with milestones and defined results. Short-term activities for these synergies can be defined using the SPRINT methodology. The other two should be considered as collaborative work.

The 8 synergies are detailed in the online supplement.

3- Proposed Synergies activities

3-1- Overarching synergies

3-1-1- Information technology and adherence in ageing population with chronic diseases and appropriate polypharmacy

H Papadopoulos, D. Pappa, P Kardas, A Mair, A Monaco, Z Gutter

Leading AG: A1

Rationale: Multimorbidity of chronic and acute diseases leads to the use of multiple medications (polypharmacy), increasing the risk of drug interactions, poor adherence to treatment and adverse drug reactions (ADR). Failure to adhere to medical treatment, especially for old age people increases therapeutic failure (4), causes unnecessary complications (5) and increases hospitalization and healthcare costs (6).

General objectives: To increase the adherence to treatment of older age adults with chronic diseases and polypharmacy (i) assessing the role of ICT - based solutions such as advanced processing of data, decision support applications and remote monitoring and consultation systems, and (ii) implementing tailored ICT- based interventions

Specific objectives

1- To study if application of progressive ICT systems that connect patient with health care professionals can boost adherence at seniors in long-term therapies and polypharmacy. The role of pharmacists will also be considered. Results from a running pilots in EU countries will be used for deployment.

2- To study the role of integrated information systems connecting all stakeholders (e.g. patients, family members, health and social carers, and members of municipalities, hospitals, social care entities). Results from a running pilots in Europe will be used for deployment.

3- To review best practices and available literature to assess whether ICT - based applications that support training, patient empowerment and social interactions can change behaviour and increase adherence of older age adults to treatment.

4- Use the lessons learnt in Italy by a National plan for Adherence involved The Italian Medicines Agency (AIFA), the national federation of general practitionners (FIMMG), Geriatrics and Patients association (in particular Federanziani) and universities. The barriers and results of this network can be used to develop or scale up innovative approaches at the EU level.

Contribution to the Scaling Up Strategy of the EIP on AHA: How many regions The study intends to exploit results from many EU countries.

Expected Outcomes / Contribution to MAFEIP

1- Impact on QOL: Increased adherence of elderly people to medical plans will promote healthier ageing and their QOL. Adherence to prescribed treatment and improved disease development will reduce complications

2- Impact on Sustainability of Health and Care Systems: Increased adherence to medical plans impacts sustainability of the healthcare systems. Specific metrics used in the study is in process to be defined.

3- Impact on Economic, Growth and Jobs for both the pharmaceutical industry and in the area of home care technologies and services. Opportunities for new advanced products development and production are expected to be generated and also more qualified jobs will be required for the new services.

3-1-2- Citizen and patient empowerment

C Vera-Muñoz, D Somekh, F Avolio, N Guldemond, G Fico

Leading AG: B3, Action Area 6

Rationale: Nearly all the Action Plans launched in 2012 refer to patient or citizen empowerment. Citizen and patient empowerment is a growing interest policy area. Active involvement of patients in their interaction with health and social professionals increases care effectiveness and efficiency. Citizen empowerment and the facilitating role of ICT are key topics in the EU H2020 programme. However, the work done in the EIP on AHA showed divergent understanding of citizen empowerment: defined in terms of education, joint decision-making and self-management. Tools such as measures of health literacy and the capacity of individuals or groups for self-management in chronic conditions would be of considerable value in reducing social inequalities.

General objectives: To achieve a common understanding of citizen and patient empowerment, and to implement and scale-up good practices.

Specific objectives

1- Develop a consensus view of citizen and patient empowerment across the different AGs.

2- Share and align citizen empowerment related activities within and across AGs.

3- Formulate a set of broad holistic actions, based on a common understanding, to facilitate the scaling-up of good and effective practices via transverse (Synergies TF) as well as vertical processes (AGs) that support the overall objectives of the EIP on AHA.

4- Scale-up good practices and disseminate of knowledge via the Synergies TF, the AGs, the Reference Sites and relevant EU and national initiatives.

Contribution to the Scaling Up Strategy of the EIP on AHA: How many regions

All EIP on AHA partners and regions will be involved in this synergy. Additionally, all Reference Sites in the Reference Site Collaborative Network (RSCN) will be invited to participate.

Expected Outcomes / Contribution to MAFEIP: "Patients with chronic conditions are often referred to as the most under-used resource in the health system while patient-centred care models have demonstrated better quality of care as well as potential long-term cost-efficiencies. Too many

patients are still struggling to get the support they need to become equal partners in care. To make real progress, we need to make patient empowerment a priority, starting with the development of an EU-wide strategy and action plan"[1]

1. Impact on QOL with an adequate social network and sufficient empowerment (7-10).
2. Impact on Sustainability of Health and Care Systems: Empowerment of patients and citizens is seen as a key aspect of maintain health and care systems sustainable (11, 12)..
3. Impact on Economic, Growth and Jobs: Empowered citizens are more self-sustaining and economically productive (13, 14).

3-1-3- Masters of AHA' educating seniors, health and social carers and entrepreneurs

N Goswami, A Nizinska, R Roller-Wirnsberger, P Eklund, J Malva, C Jeandel, H Blain, M Nogues

Leading AG: A2

Rationale: Integrated, interdisciplinary and inter-professional education for all stakeholders is needed to tackle the interrelated syndrome of frailty, malnutrition, falls, chronic diseases, and their social consequences.

General objectives: Development of an innovative, dynamic and sustainable care system for AHA by capacity building through senior/patient centred, multidisciplinary and inter-professional educational programmes aimed at patients, patient caregivers (both formal and informal), health and social carers, administrators and entrepreneurs.

Specific objectives:

1- Multi-professional education to improve the links between all stakeholders through better understanding of the knowledge and competencies of each stakeholder.
2- Master of Gerontology and Geriatrics: To develop dynamic and sustainable care systems that will encompass inter-disciplinary, inter-professional education (IPE) and learning (IPL) including RRI business models.
3- Best evidence holistic perspective to bring together research, practice, policies and market by courses in medical, nursing, pharmacy, social, behavioural, psychological, economic physiological, management service aspects related to prevention and management of ageing and using the innovation loop of planning up-scaling strategies.
4- To promote AHA as well as the empowerment of self-care and (care) independency, by placing the older person at the centre of care.

Contribution to the Scaling Up Strategy of the EIP on AHA: The program will be started at the Medical University of Graz, Austria by a well-defined Master of Gerontology and Geriatrics in English. The course teachers and participants will be from different institutions in Europe. This programme will be a pilot for other European programmes. The multi- professional approach will be developed in collaboration with the European Interdisciplinary Council on Aging (EICA) gathering professionals from all disciplines interested in AHA also implementing knowledge transfer to political, economic and lay stakeholders in the field.

Regions to be included: Regions will have a role for both of contributors, sharing their experiences and best practices as well as learners, willing to implement and improve existing state of the art in educating all level stakeholders in AHA. State-of-the-art running programmes will also contribute to this synergy. Some examples of education programmes carried out in other regions are given in Table 4.

Table 4: Examples of Masters of Gerontology and Geriatrics in Europe

Country	Region or Reference site	Website	Title	Language

[1] EPF President, Anders Olauson

Austria	Graz Medical University		Master of Gerontology and Geriatrics	English
Austria	Medical Doctors' Association Austria	http://www.aerztekammer.at/veranstaltungen	Postgraduate Training Course for Medical Doctors in Geriatric Medicine	German
Belgium	European Academy of Aging (EAMA)	http://eama.eu	Leadership programme for academic geriatricians	English
France	Languedoc Roussillon (15-17)	http://reseau-idefi-2015.strikingly.com	***Trans Innov Longévité***: Trans-disciplinary, multisectoral, private-public partnership to train and coach on frailty, ageing and independent living	French
Portugal	Ageing@Coimbra	http://www.ed.uc.pt/educ/curso?id=96	Distance Learning Course for Care Providers and the general public	Portuguese
UK	British Geriatric Society	http://www.bgs.org	Spring Postgraduate training course geriatric medicine Edinburgh Scotland	English
UK	University of Oxford	http://www.oxford.edu.	Onsite training courses	English

To ensure efficient running of the programme: A scientific advisory committee has been put in place to elaborate a landscape of educational events taht will be retrieved from the homepage of the Medical University of Graz/Austria. Experts on the committee will set up quality standards for live as well as long distance educational events in the field of AHA (e-learning). Experts will be chosen by the committee for their educational, clinical and/or research expertise in the field of AHA. The committee will be composed of members from all stakeholders involved in AHA across Europe. The committee will work closely with the members of the RRI framework to ensure evidence based multi-professional education and to deliver educational research results *per se*.

Expected Outcomes / Contribution to MAFEIP

1- Impact on QOL of seniors
2- Ensure health promotion, literacy, engagement and empowerment of senior citizens in aspects related to adopting interventions and life styles that promote active and health aging (e.g. acceptance of evidence based interventions, behavioural changes towards AHA).
3- Impact on Sustainability of Health and Care Systems
4- Impact on Economic, Growth and Jobs

3-1-4- AHA in the framework of Responsible Research and Innovation (RRI)

I Monsonís-Paya, M Hinkema, J Martin, AS Parent, J García, M Ferri

Leading AG: D4

Rationale: Responsible Research and Innovation (RRI) is an approach that anticipates and assesses potential implications and societal expectations of research and innovation (18, 19). RRI allows all stakeholders involved in research and innovation (i) to obtain relevant knowledge on the consequences of the outcomes of their actions, (ii) to effectively evaluate outcomes in terms of societal needs and moral values and (iii) to use these considerations for design and development of new research, products and services (18). The concept in Europe considers eight key areas (20) that should be included in the dialogue among the different AGs of the EIP AHA such as Governance, Public Engagement, Gender Equality, Science Education, Open Science/Open access, Ethics, Sustainability and Social Justice/Inclusion.

General objectives: To provide a roadmap of actions to be undertaken to promote RRI in AHA.

Specific objectives:
1- To identify the current state of the actions and initiatives related to the concept of RRI in the

AHA framework and the concrete contribution of the partners and AGs. .

2- To create a group of partners interested in working in this area and identifying the most urgent actions and the plan of execution on RRI in AHA for the following years.

3- To analyse the work done in AHA in terms of RRI in the framework of the EIP AHA and other related networks.

4- To provide a roadmap of urgent action to be undertaken on RRI on AHA.

Contribution to the Scaling Up Strategy of the EIP on AHA: The synergy considers the engagement of higher number and more diverse stakeholders involved in the chain supply of active and healthy ageing products and services, including grass-root stakeholders (at local and regional level) with no possibility to join the EIP AHA in Brussels due to economic, linguistic or time limitations in order to promote a richer dialogue and collaboration. To this regard, the D4 partners/coordinators initially suggested to consider new agents as actors participating in the promotion of active and healthy ageing at early stages and other actors supporting innovative ways of promoting active and healthy ageing elderly people i.e. schools, volunteers, touristic operators, social entrepreneurs.

Expected Outcomes / Contribution to MAFEIP: As far as we know there has been no previous attempt to integrate the concept of RRI to AHA. This synergy will create a baseline for future development and the integration of this trend in the research and innovation in the field in a structured and holistic way with the support of relevant stakeholders

3-1-5- Maturity Model for Integrated Care

A Pavlickova, D Henderson

Leading AG: B3, Action Area 7

Rationale: Scaling up of EIP on AHA good practices in integrated care to EU regions is essential to reduce health, gender and social inequities in Europe.

General objectives: The B3 AG has developed the B3 Maturity Model to assist regions with their efforts to deploy integrated care in Europe in order (i) to reveal strengths and weaknesses of European regions, (ii) to match those with similar problems and environments to work together and (iii) to help regions to scale up their activities.

Specific objectives

1. To share learning and expertise gained during development of the B3 Maturity Model
2. To adjust the Maturity Model to address challenges of ageing in Europe such as adherence, frailty, falls prevention and assisted living solutions.
3. To develop self-assessment tool(s) to assess the readiness of regions with implementation of solutions for AHA.
4. To test and validate the Maturity Model as a tool for supporting scaling up and replication of innovative solutions; and facilitating knowledge transfer and exchange of good practices in Europe.

Contribution to the Scaling Up Strategy of the EIP on AHA: Aiming to conduct self-assessment in 8 regions, with twinning and coaching activities facilitated by B3 regions.

Expected Outcomes / Contribution to MAFEIP

1- Impact on QOL: Scaling up of effective integrated care will improve the quality of care, health and wellbeing for citizens.

2- Impact on Sustainability of Health and Care Systems: Positioning of European regions in terms of strengths and weaknesses will inform national, regional and local authorities about their "future direction of travel" – quick and systematic identification of areas that need an attention to achieve improvement in AHA solutions.

3- Impact on Economic, Growth and Jobs: Integration of health and care will lead to new roles and competencies for the workforce, and will generate opportunities for growth through scaling up of effective models of care / solutions.

3-2- Cross-cutting synergies focussed on an Action Group

3-2-1- Falls prevention and injuries: a grand societal challenge

P Eklund, I O'Byrne Maguire, A Murray, H Blain, R Roller-Wirnsberger, L Rodriguez-Manas, M Vollenbroek, A Teixeira, N Guldemond, A Catalá, A Méndez Zorrilla, R van de Bilt, C Alonso-Bouzon

Leading AG: A2

Rationale: Falls represent a major cause of burden and death in older adults (21). Approximately 30% of falls result in an injury that requires medical attention, with fractures occurring in approximately 5%, hip fractures in 1% (22-25) and falls-related injuries account for over 5% medical expenditures for persons over 65 years. Falls are the third leading cause of years lived with disability.

General objectives: Scale up a falls prevention and injuries initiative from local pilot studies to a practical and feasible pan-European programme including all stakeholders.

Specific objectives

1- Enable macro-, meso- and micro- level analysis including governance and policy-making based screening, prevention, rehabilitation and monitoring, and an integration with Silver Economy, and related to WHO's consultation on Global Strategy and Action Plan on Ageing and Health.

2- Engage regional and municipal levels in fall prevention campaigns, thereby enabling and promoting early frailty and fall risk assessment, and identifying frail and faller profiles.

3- Anticipate and identify the data analytic scope for health outcomes studies in order to utilize the infrastructure and support the widest possible variety of health and social studies, including support for further methods and care services developments related to frailty and fall injury intervention and prevention.

4- Raise awareness and promote behavioural change among citizens in prevention of frailty and fall injuries including post-operative interventions.

5- Understanding falls-risk-increasing drugs and frailty.

6- Provision of specific smart home and smart building oriented ICT solutions viewed from a socio-economic Key Performance Index perspective.

Contribution to the Scaling Up Strategy of the EIP on AHA: How many regions: Five to ten demonstrators regions are proposed, including Austria/Steiermark, Finland, France/Languedoc-Roussillon, Ireland, Scotland, Spain (Region of Madrid-Getafe University Hospital and Basque country). Austria, Finland and France have agreed. Discussions are ongoing with others.

Expected Outcomes / Contribution to MAFEIP: Scaling-up of good practices with an extended MAFEIP monitoring framework (2, 3) including socio-economic and macro-economic aspects.

1- Impact on QOL: Fall risk assessment is often embedded into a broader scope of geriatric assessment, e.g. including cognitive and non-cognitive aspects of dementia, activities of daily life (ADL), QOL, depression and nutrition. EQ5D is often used but it is not sufficient for a broader scope of assessment. Finer granularity is needed.

2- Impact on Sustainability of Health and Care Systems: Pathways and care processes are important ingredients in sustainability. This process sustainability is discussed within the AG.

3- Impact on Economic, Growth and Jobs: The AG is discussing the whole *ecosystem*, from both topdown and bottom up approaches.

3-2-2- Impact of Community-based Program on Frailty Prevention and frailty Mitigation (ICP – FPM)

G Liotta, A Cano, R Caoimh, G Iaccarino, M Illario, MC Inzerilli, M Maggio, E Menditto, W Molloy, C Paul, F Orfila, R Roller-Winsberger, M Vollenbroek, L Rodriguez-Manas

Leading AG: A3

Rationale: Prevention, screening, early identification and diagnosis of frailty and functional decline are closely related with integrated care of chronic diseases. They operate primarily in the community. They require integration of health (primary, secondary) and social care to deliver screening, targeted assessment (e.g. Comprehensive Geriatric Assessment) and evidence-based, cost effective and tailored interventions (26-29). Frail subjects require a comprehensive approach to prevent disability, recurrent hospitalizations, institutionalization and related heath-social care costs (26, 30, 31). Interventions must integrate health care and a supportive social environment for the patient and caregiver (32, 33). Women may be at higher rates of physical and cognitive frailty and interventions must be gender and cultural sensitive.

General Objective: (i) To set up a public health approach to prevent, identify and manage frailty in community dwelling older adults, to be validated in different EU member states, (ii) to develop and test simple screening strategies to identify those at risk (pre-frail) and those who are frail for triage to further assessment and (iii) to identify the causes that can be targeted to prevent, delay or postpone further decline.

Specific objectives

1- To identify effective and sustainable prevention strategies focusing on subjects at risk of frailty across the nutritional, cognitive, socioeconomic, functional and physical domains.

2- To join systematic frailty assessment with good practices in frailty management counteracting social isolation, and improving nutrition, adherence to therapy and prevention of falls.

3- To integrate social and health care interventions at primary care level.

4- To promote health care integration at primary and secondary levels.

5- To assess the impact of this public health model to manage frailty in the community in terms of cost effectiveness, use of health services, acceptance by citizens and patients' QOL.

6- To exploit existing ICT supported assessment and intervention tools.

7- To describe each individual's caregiver network's weaknesses, strengths and implement strategies to maintain, supplement and improve this network.

Contribution to the Scaling Up Strategy of the EIP on AHA: The proposal include projects already developed in six European countries and is going to include organization based in two more countries. Objective of the proposal is to represent all the European Regions

Expected Outcomes / Contribution to MAFEIP

1- Impact on Quality of Life: Community-based programs should reduce mortality, hospitalization and institutionalization rate so that they can improve the elderly QOL.

2- Impact on Sustainability of Health and Care Systems: the proposal will assesses the capacity of different intervention aimed to strengthen community-based health and social care programs to reduce the work load on hospitals and residential Long Term Care services that are much more expensive.

3- Impact on Economic, Growth and Jobs: strengthening community-based services needs an increase of dedicated personnel with potential benefit for the employment levels.

3-2-3- Multimorbidity of chronic respiratory diseases in old age adults: an under-recognised societal problem (B3)

J Bousquet, M Bewick, P Hellings, J Ankri, A Bedbrook, G Iacarino, P Kardas, A Mair, J Malva, M Nogues, A Prados-Torres, L Rodriguez-Manas, O VandenPlas, B Vellas, others

Leading AG: B3, Action Area 5

Rationale: Chronic Respiratory Diseases (CRD) are major chronic diseases. Some are occurring early in life (e.g. asthma-rhinitis) and persist throughout life (34, 35). COPD is associated with frailty in old age adults (multimorbidity, polymedication). CRDs are intertwined with ageing and negatively impact AHA. Prevention and control of CRD in the ageing population is vital. Integrated care pathways have been set for CRDs (AIRWAYS ICPs) in the B3 AG(36-38).

General objectives: To better understand, prevent, detect and manage CRDs in old age people, and to assess their socio-economic and health services utilization impact. Simple ICT tools allowing individualised medication should be developed. To raise the awareness of the role of CRDs in elderly, and advocate for a European strategy, in order to support scaling up of regional interventions. A stepwise action plan is proposed including scientific societies and patient's organisations involvement.

Specific objectives

1- **Promotion of AHA: Fit at work with rhinitis**: Rhinitis impacts work productivity more than diabetes, hypertension or asthma. In Europe, work productivity costs due to rhinitis are over 30 B€ yearly. The control of rhinitis by treatment improves work productivity (39). This project includes care pathways and should be a pilot for other common chronic diseases.

2- **Ageing well with rare paediatric diseases** (e.g. cystic fibrosis (CF) or bronchopulmonary dysplasia): The transition between paediatrics, adult medicine and geriatrics is key for AHA in this severe genetic disease. The model of CF can be deployed to other rare diseases (40).

3- **Understanding, promoting health and controlling CRDs across the life cycle for AHA** (35) following the Polish (10, 41) and Cyprus priorities of the EU Council (42).

4- **Understanding CRDs in old age people:** Care pathways for airway diseases (rhinitis, asthma and COPD) and their multimorbidities in old age people need to identify prioritized questions and use ICT tools (43, 44). Public health initiatives to identify those early when presenting in a pharmacy to purchase treatment.

5- **Multimorbidity in CRDs.** To describe the clinical profile of patients with CRDs, the patterns of multimorbidity, and health services use of this groups of patients based on the EpiChron cohort study (1.3M inhabitants).

6- **Integrated care pathways for rhinitis across the life cycle and remote monitoring** with a specific focus on old age adults (43, 44).

7- **Interactions between chronic respiratory diseases and frailty**

8- **Polymedication:** In CRDs, and particularly in COPD, patient adherence is a far from perfect. Most often, patients discontinue their treatment very soon after its initiation. Polymedication has profound medical and economical consequences.

9- **Societal problems in CRDs** will be initially tackled with CARSAT (*Caisse d'Assurance Retraite et Santé au Travail*, Social Security, France) (17) and scaled up to EU regions using the ICT tool on AHA (45-47).

10- **Scaling up strategy, education, coaching and training** (EUFOREA).

Contribution to the Scaling Up Strategy of the EIP on AHA: AIRWAYS ICPs is currently deployed in 25 EU countries with national coordinations.

Expected Outcomes / Contribution to MAFEIP

1- Impact on QOL: All CRDs impact severely QOL across the life cycle. AIRWAYS ICPs is likely to have a major impact in old age adults.

2- Impact on Sustainability of Health and Care Systems: Novel care pathways including self-care, health and social carers that are patient-centered are required and represent one of the major objectives of AIRWAYS ICPs. Better knowledge of the patterns of multimorbidity in CRDs and the health care use characteristics.

3- Impact on Economic, Growth and Jobs: Fit at work with rhinitis will have a major impact on economy.

4- Embedding synergies in EIP on AHA Reference Sites

Synergies have been built among EIP on AHA Reference Sites as illustrative examples of comprehensive, innovation-based approaches to active and healthy ageing. Reference Sites of the EIP on AHA are coalitions of regions, cities, integrated hospitals or care organisations that are able

to show concrete impact of innovative practices, which could be transferred to other European contexts. A total of 32 Reference Sites have been awarded with this recognition.

In this context, Reference Sites across European Regions, conscious of the need for synergies and collaborative approach to addressing health and care challenges of an ageing population, expressed the common will to establish a Collaborative Network to facilitate joint reflection and action in sharing and transferring best practice in the development and scaling up of health and care strategies, policies and service delivery models. It constitutes an excellent example of synergies building.

The interregional Reference Site Collaborative Network (RSCN) is comprised of References Sites recognised by the Commission as well as Regions intending applying for Reference Site status (candidate Reference Sites). Its main goal is to improve health and care through an active cooperation with each other, contributing to the general debate with the EU institutions, in order to optimise the possibilities for sharing a strong, sustainable health and care system for all, while respecting the different competences and responsibilities in the direct organisation of the health and care services of the Member States and Regions. In the following table, the RSCN main objectives are listed:

Table: Main Objectives

- Support Reference Sites to learn from each other through twinning events and sharing information on best practice.

- Support and co-ordinate Reference Sites in working with each other on joint projects, funded through Reference Sites internal arrangements and through European funds.

- Communicate with and react to EU policy developments from Reference Site perspective.

5- Support for the EIP on AHA Scaling up strategy

4-1- EIP on AHA overall scaling up strategy

The Scaling Up Strategy will follow the 5-step approach that has been proposed by the EIP on AHA and that has already been applied to AIRWAYS ICPs ((https://ec.europa.eu/research/innovation-union/pdf/active-healthy-ageing/scaling_up_strategy.pdf, Bousquet et al, submitted).

An up-scaling strategy is multidimensional where accurate, appropriate and complete execution of each step is necessary to enable rigorous and systematic fulfilment of subsequent steps in the up-scaling process. As an example, up-scaling the IKINÄ (THL National Falls Prevention Initiative) guideline for fall prevention by THL (*Terveyden ja Hyvinvoinnin Laitos*, National Institute for Health and Welfare, Finland) in Finland (48), may be proposed. WHO's ExpandNet guides (49) to up-scaling may provide potential additions to the EIP on AHA's Scaling-up Strategy.

The dissemination was proposed to be carried out using the same model as previous B3 AG and/or AIRWAYS ICPs meetings (35, 38, 42, 45-47, 50-54).

4-2- Proposal for scaling up strategy of the AG synergies

The currently proposed synergies are flexible and should be updated with ongoing or new projects. New synergies should also be proposed and embedded in a flexible but transparent and structured manner. It is important that all stakeholders of current synergies and new proposals are well versed in information and process structures relating to the Scaling-up Strategy and other required upscaling models adopted (Table 5).

Table 5: Proposal for general rules for submitting new synergies activities

1- Eligibility for submitting a proposal o Only a member of the EIP on AHA (reference site or commitment for action or AG) can make a proposal. o In addition, the proposal leader should be a member of one of the Action Groups and have the written agreement of the AG coordinator/coordination team. o A review of all requests will be made at the end of 2016 to optimize the process for 2017. o Non-members of the EIP on AHA: only open after January 2017 EXCEPT if an AG coordinator indicates that the applicant is highly relevant for the synergy.
2- New proposals should be: • Capable of integrating within a current synergy • ***OR*** new topic which was not included but considered after the review of the current synergies.
3- Only proposals submitted using the template approved by the TF will be considered.

5- Monitoring of activities carried out within the synergies

5-1- MAFEIP

Monitoring the activities carried out within the EIP on AHA needs a flexible and consistent approach to estimate health and economic impacts across interventions and commitments. A generic and flexible web-based monitoring and assessment tool was developed. The MAFEIP tool estimates health and economic outcomes in terms of incremental changes in Quality Adjusted Life Years (QALYs) as well as health and social care utilisation. The MAFEIP-tool can provide an early assessment of the likelihood that interventions will achieve the anticipated impact, and also to identify what drives interventions' effectiveness or efficiency to guide further refinement, design upgrades and evaluation (2, 3).

5-2- AHA operative questionnaire

A core operational definition of AHA is needed to conduct comparisons (55). A conceptual AHA framework proposed by the EIP on AHA Reference Site Collaborative Network includes several items such as functioning (individual capability and underlying body syste (RSCN)ms), well-being, activities and participation, and diseases (including non-communicable diseases, frailty, mental and oral health disorders) (45, 46). The instruments proposed include core and optional domains/instruments depending on the needs and the questions (47). A major common domain is function as measured by the World Health Organization Disability Assessment Schedule 2.0 (WHODAS 2.0) that can be used across all diseases and healthy individuals. It covers many of the AHA dimensions proposed by the RSCN. However, WHODAS-2.0 does not include all dimensions proposed for AHA assessment. The second common domain is Health-Related QOL (HRQL). EQ-5D is one of the QALY measurements and The AHA questionnaire is therefore interoperable with MAFEIP. The instrument is translated and culturally validated for most EU countries and will be digitalized in the first quarter of 2016. A report of the AHA questionnaire in the form of a spider diagram will facilitate usual comparisons across individuals and groups of interest (55).

5-3- Other tools

Assessment scales, as information entities, are not often equipped with rigorous typing of data. This disables the gap between logic and guidelines not only in geriatric assessment (56) but also within municipal and regional decision-making in older person care. Logic is, on the one hand, a carrier of information, and, on the other hand, it includes a mechanism for rigorous logical inference which underlies decision-making. Gerontological conditions and circumstances are about information and knowledge, and gerontological data can be properly typed to open up possibilities

e.g. for comparative studies and development of regional and national repositories involving gerontological data and information (57).

The information structure representation of nomenclatures and classifications is also important. WHO classifications are logically lative (58). The reference classifications ICD (International Classification of Diseases) and ICF (International Classification of Functioning, Disability and Health) then appear in structured relation with each other. Similar transformations can be made for the derived and related classifications ICPC-2, ICECI, ISO9999, ATC/DDD and ICNP (59).

These information entities are inherently multivalent, and classifications like the ICF explicitly recognizes this multivalence through introduction of its generic scale. This in turn requires to formally manage many-valuedness and uncertainty in a logical setting (49).

Conclusion

AHA requires a multidimensional and multidisciplinary approach to allow people from multiple backgrounds to work together sharing a common language. The experience of different stakeholders working on a collaborative way producing concrete results in the different Action Groups sets a promising ground for the difficult challenge of scaling up good practices at European level.

The added value of working together requires identifying synergies not only between different good practices but also between different Action Groups' results. To yield actual benefits they have to be developed in concrete action plans that explain the rationale for the synergy, the participants, the objectives and a concrete plan with sprints.

EIP AHA implementation can manage a limited number of synergy actions. To select them a flexible but structured process, with a transparent evaluation methodology had to be used. The success of the first call with nine proposals submitted and evaluated supports the viability of the approach chosen. Eight were selected.

New stakeholders have to join and new proposals implemented. To make sure the added value of the whole process, Actions have to be assessed according to their estimated health and economic outcomes as well as health and social care utilisation using MAFEIP and other tools.

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